

New Hampshire Department of Transportation
Bureau of Materials & Research

Qualified Products List – Qualification Criteria

Section 538 – Barrier Membrane

- A. ITEMS 538.1 AND 538.2 - WARM WEATHER APPLICATION**
- B. ITEM 538.2 - COOL WEATHER APPLICATION**
- D. ITEM 538.3 - BARRIER MEMBRANE, LIQUID SPRAY**
- E. ITEM 538.4 - BARRIER MEMBRANE, HOT RUBBERIZED ASPHALT**
- F. ITEM 538.5 - BARRIER MEMBRANE, WELDED BY TORCH**
- G. ITEM 538.6 - BARRIER MEMBRANE, WELDED BY TORCH - MACHINE METHOD**

- Specification

Barrier membrane shall consist of adhesive primer, waterproofing membrane, tack coat, and curb seal all as one system with all components being recommended by the manufacturer and included on the Qualified Products List.

- Required Submissions and Demonstrations

Phase 1

1. Manufacturer shall submit a completed Preliminary Information for Product Evaluation (QPL Product Submittal) Form, applicable MSDS(s), and other pertinent literature, including its *Quality Control Plan* for production of membrane, a detailed summary of its *Applicator Training & Certification Program*, and its *Field Process Quality Control Plan*. Information on the requirements for each of these documents is available through the Bureau of Materials & Research.
2. Manufacturer shall submit a detailed summary of successful installations that have occurred in the United States, including owner contact information, design and construction details (substrate type & condition, membrane system components, bituminous overlay thickness and mix details, etc.), year constructed, tests performed, performance monitoring and/or testing, and any other information requested by the Department.
3. In the absence of successful U.S. installations, information from installations occurring outside the U.S. may be submitted. The Department reserves the right to delay consideration of membrane systems that have not established a successful track record in the U.S., until such time as successful installations have been documented to the satisfaction of the Department.

The Department may request a sample and perform preliminary testing in the lab. Subsequent steps will proceed only upon Department direction.

Phase 2

4. Manufacturer shall make a presentation to appropriate Department personnel.
5. Manufacturer shall set up and perform a demonstration on a test slab in the field, in the presence of personnel from the NHDOT Bureau of Materials & Research and other appropriate personnel. It is the manufacturer's responsibility to locate or place a suitable slab within reasonable travel distance from Concord, NH. At NHDOT's option, out-of-state locations within a reasonable distance from the NH state line may be acceptable provided sufficient notice is given to allow NHDOT personnel to obtain proper out-of-state travel authorization. As part of this demonstration, a cold joint shall be constructed and tested.

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During the demonstration, at least 3 individual applicators must demonstrate proficiency in applying the membrane, including overlap technique. A minimum of 60 square feet must be applied per applicator. The purpose of this requirement is for the manufacturer to demonstrate the effectiveness of its *Applicator Training & Certification Program*. The manufacturer shall perform testing consistent with the applicable specification requirements.

6. The Department will evaluate the membrane and application, and may perform additional testing.

Phase 3

7. A bridge application will be required. The Department will allow the membrane to be applied on a small bridge project as an alternative to a currently qualified, similar system. This application could occur on a project being conducted under contract or by Bridge Maintenance forces, depending on availability of a suitable bridge and other circumstances. It is the responsibility of the manufacturer to work with a Contractor or with Bridge Maintenance forces to set up this application, and to notify the Bureau of Materials & Research so that proper testing/evaluation can take place.
8. During this and any subsequent application, only Certified Applicators are allowed to apply the membrane. The *Field Process Quality Control Plan* is expected to be followed at all times. It is the responsibility of the manufacturer and its field representative to ensure that applicators have received proper training and certification prior to placing membrane on an NHDOT bridge (i.e. on-the-job training is not acceptable).

- Qualification Criteria

The Department will evaluate the membrane installation and monitor the performance of the membrane. The minimum monitoring period will span two winter seasons with normal traffic loads and conditions.

Following the Department's evaluation of the membrane, the manufacturer will be notified of the qualification status of the membrane system.

Approved by: *Alan D. Rawson*
Bureau Administrator

The Department continues to evaluate its qualification criteria as well as products that have been qualified against them, and reserves the right to revise the criteria and/or withdraw product qualification at any time for any reason without notice.

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